

CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-73. (Canceled.)

74. (Previously presented) A vessel filter for filtering solids in a liquid flowing through said vessel filter, said vessel filter designed for use with a magnetic resonance tomograph having an external magnetic field, said magnetic field having a tomograph frequency, said vessel filter comprising:

a conductor having a first end and a second end, the entire length of said conductor bent into a shape that provides mechanical filtering and also creates an inductance, wherein said first end and said second end are proximate one another;

a nonconductive dielectric positioned between said first end and said second end in order to prevent shorting between said first end and said second end, and further to create a capacitance, wherein said capacitance and said inductance form a series resonant circuit;

wherein said capacitance and said inductance are chosen to have a resonant frequency tuned to said tomograph frequency;

wherein the conductor forms solely the vessel filter and said filtering is solely performed by said conductor and nonconductive dielectric;

wherein said ends of said conductor are insulated with an insulator that represents said dielectric and forms said capacitance with said ends separated by said insulator; and

wherein said vessel filter is configured to be implanted within a vessel.

75. (Previously presented) The vessel filter according to Claim 74, wherein the conductor is covered with a nonconductive coating.

76. (Previously presented) The vessel filter according to Claim 75, wherein said nonconductive coating forms said nonconductive dielectric.

77. (Previously presented) The vessel filter according to Claim 74, wherein the conductor comprises at least one electrically nonconducting material on whose surface at least one conductive material is carried.

78. (Previously presented) The vessel filter according to Claim 74, wherein the conductor is unfoldable from a folded position.

79. (Previously presented) The vessel filter according to Claim 78, wherein the conductor is unfoldable during and/or after implantation in a body.

80. (Previously presented) The vessel filter according to Claim 74, wherein the conductor includes a plurality of conductor loop windings guided so that the greatest spacing of the conductor loop windings from each other is present in the center of the vessel filter and has a reduced spacing of the conductor loop windings from each other on at least one edge side.

81. (Previously presented) The vessel filter according to Claim 80, wherein the spacing of the conductor loops windings from each other is reduced toward multiple edge sides relative to the center of the vessel filter.

82. (Previously presented) The vessel filter according to Claim 74, wherein the conductor includes a plurality of conductor loop windings that merge on one side of the filter to form a filter cage and extend to the other side of the filter.

83. (Previously presented) The vessel filter according to Claim 74, wherein the conductor has at least one conductor loop winding forming at least one extension that serves for connection of the filter to a vessel wall.

84. (Previously presented) The vessel filter according to Claim 83, wherein adjacent regions of the conductor loop winding are spaced from each other by means of the at least one extension.

85. (Previously presented) The vessel filter according to Claim 83, wherein adjacent regions of the conductor loop winding are connected without intermediate space to each other in the at least one extension.

86. (Previously presented) The vessel filter according to Claim 80, wherein the conductor forms a double-filter in which the respective ends of the conductor loops each form a filter cage.

87. (Previously presented) The vessel filter according to Claim 74, wherein the conductor has individual windings that extend in a longitudinal direction of the vessel filter.

88. (Previously presented) The vessel filter according to Claim 80, wherein the vessel filter has at least one brace which is connected to the conductor loops.

89. (Previously presented) The vessel filter according to Claim 88, wherein said at least one brace is conducting and is conductively connected to said conductor loop.

90. (Previously presented) The vessel filter according to Claim 88, wherein said at least one brace is movably connected to individual conductor loop windings.

91. (Previously presented) The vessel filter according to Claim 83 which further includes at least one brace for fastening of the vessel filter, wherein said extension is moveably arranged relative to brace.

92. (Previously presented) The vessel filter according to Claim 88, wherein said at least one brace is made of bioresorbable material.

93. (Previously presented) The vessel filter according to Claim 74, wherein the conductor is formed from a single material piece .

94. (Previously presented) The vessel filter according to Claim 74, wherein the conductor is produced by repeated lengthwise cutting of a tube and then expansion.

95. (Previously presented) The vessel filter according to Claim 80, wherein at least one conductor loop winding is provided with at least one hook for fastening in a vessel wall.

96. (Previously presented) The vessel filter according to Claim 74, wherein the vessel filter has at least one connection device for coupling to a device for introduction and/or extraction of the filter.

97. (Previously presented) The vessel filter according to Claim 74, wherein the vessel filter contains at least one connection device constructed and arranged for braking of the filter during introduction into the body.

98. (Previously presented) The vessel filter according to Claim 96, wherein the connection device is constructed and arranged so that it simultaneously creates a braking device for the braking of the filter during introduction into the body.

99. (Previously presented) A vessel filter for filtering solids in a liquid flowing through said vessel filter, said vessel filter designed for use with a magnetic resonance imaging tomograph having an external magnetic field, said magnetic field having a tomograph frequency, said vessel filter comprising:

at least one conductor having a first end and a second end, the entire length of said conductor bent into a shape that provides mechanical filtering and also creates an inductance, wherein said first end and said second end are proximate one another; and

at least one nonconductive dielectric positioned between said first end and said second end in order to prevent shorting between said first end and said second end, and further to create a capacitance, wherein said capacitance and said inductance form a series resonant circuit;

wherein said capacitance and said inductance are chosen to have at least one resonant frequency tuned to said tomograph frequency;

wherein the at least one conductor forms solely the vessel filter and said filtering is solely performed by said at least one conductor and said at least one nonconductive dielectric;

wherein said ends of said at least one conductor are insulated with an insulator that represents said dielectric and forms said capacitance with said ends separated by said insulator; and

wherein said vessel filter is configured to be implanted within a vessel.

100. (Previously presented) A vessel filter for filtering solids in a liquid flowing through said vessel filter, said vessel filter designed for use with a magnetic resonance imaging tomograph having an external magnetic field, said magnetic field having a tomograph frequency, said vessel filter comprising:

at least one conductor having a first end and a second end, the entire length of said conductor bent into a shape that provides mechanical filtering and also creates an inductance, wherein said first end and said second end are proximate one another; and

at least one nonconductive dielectric positioned between said first end and said second end in order to prevent shorting between said first end and said second end, and further to create a capacitance, wherein said capacitance and said inductance form a series resonant circuit;

wherein said capacitance and said inductance are chosen to have at least one resonant frequency tuned to said tomograph frequency;

wherein the at least one conductor forms solely the vessel filter and said filtering is solely performed by said at least one conductor and said at least one nonconductive dielectric;

wherein said inductance is created substantially as a result of said shape of said at least one conductor;

wherein said ends of said at least one conductor are insulated with an insulator that represents said dielectric and forms said capacitance with said ends separated by said insulator; and

wherein said vessel filter is configured to be implanted within a vessel.

101. (Previously presented) A vessel filter for filtering solids in a liquid flowing through said vessel filter, said vessel filter designed for use with a magnetic resonance imaging tomograph having an external magnetic field, said magnetic field having a tomograph frequency, said vessel filter comprising:

at least one conductor having a first end and a second end, the entire length of said conductor bent into a shape that provides mechanical filtering and also creates an inductance, wherein said first end and said second end are proximate one another; and

at least one nonconductive dielectric positioned between said first end and said second end in order to prevent shorting between said first end and said second end, and further to create a capacitance, wherein said capacitance and said inductance form a series resonant circuit;

wherein said capacitance and said inductance are chosen to have at least one resonant frequency tuned to said tomograph frequency; and

wherein the at least one conductor forms solely the vessel filter and said filtering is solely performed by said at least one conductor and said at least one nonconductive dielectric;

wherein said shape comprises a plurality of continuous radial loops, each one of said radial loops beginning from and returning to an area proximate said at least one nonconductive dielectric;

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wherein said ends of said at least one conductor are insulated with an insulator that
represents said dielectric and forms said capacitance with said ends separated by
said insulator; and
wherein said vessel filter is configured to be implanted within a vessel.